

Largemouth bass survival in winter tournaments: *Temperature Shock* (spring 2010)

The Problem

Anglers catch largemouth bass during winter tournaments near the Blue Plains Wastewater Treatment facility (on Potomac River). At the facility, the bass may be adjusted to living in warm water, but are then released in colder water after tournaments.

The Question

Do largemouth bass die when put in water that is 10 – 15° colder than water they were living in?

Methods

On 16 May (2010), anglers from the Youth Chapter of the Maryland Bass Federation Nation caught twenty largemouth bass from farm ponds of the MDDNR Cedarville hatchery. The ponds' water temperature in May averaged 71° F. Biologists moved the fish to tanks that were 10 – 15 degrees colder than the water in the hatchery ponds. Biologists put ten fish into each tank and

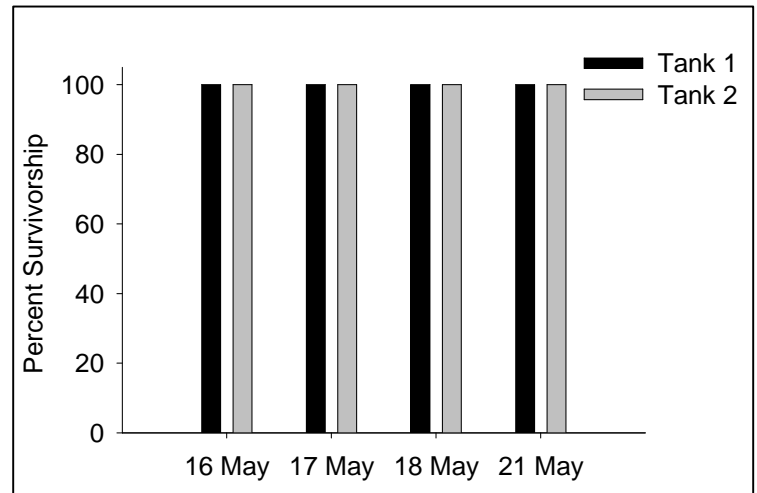
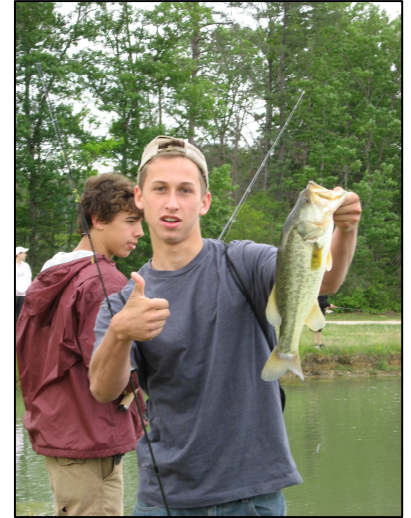
observed fish for stress at four time periods: immediately after release, 24 hours later, 48 hours later, and 168 hours later.

Results

No fish showed signs of stress or died during this study.

Discussion

Largemouth bass survived the transition from warm (~71° F) to colder (56 – 57° F) water. The temperature difference used here (14 – 15° F) was suitable based on conversations with Blue Plains Wastewater Management (pers. comm., S. Kharkar, P.E., DC Water and Sewer Authority).



After the experiment, MDDNR Biologists returned the fish returned to warm water (70° F) for transport to Piscataway Creek, which was also 70° F. None of the fish showed signs of stress or died when being placed in warmer water. However, putting the fish into extremely warm water (> 80 – 90° F) when oxygen is less available was not tested.

During winter (2010-2011), we will repeat this study by taking largemouth bass from water near Blue Plains and monitoring them in the live well as water temperatures drop. While the temperature difference will be the same as that used in the current study, the tested water temperatures will be colder and be more realistic to that experienced during winter.

Acknowledgements

I thank S. Chaconas (National Bass Guide Service), the Maryland Youth Chapter of the MBFN, the staff at Cedarville Hatchery (D. Sien, J. North, D. Pritchett), and the Southern Regional Office.

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